New Scientist

**Analysis and Health**

# Face masks ward off covid-19, so why are we still arguing about it?

The most recent review into the effectiveness of face masks has confirmed that they do help to prevent covid-19, but the intervention remains a controversial issue

By Michael Le Page

31 October 2023

**Asking people to wear masks is linked to reduced coronavirus transmission**
Richard B. Levine/Alamy

A review of the studies done so far has concluded that wearing masks really does help prevent the spread of covid-19. It is far from the first paper to come to this finding, 🔗/article/2388929-lockdowns-and-face-masks-really-did-help-to-control-covid-19/ so why does the issue remain so controversial? The problem is that it isn't easy to carry out individual studies of the highest standard during a pandemic.

That standard is a randomised controlled trial (RCT), in which people are randomly

assigned to either get a treatment or intervention, in this case wearing a mask, or not. Because of the practical difficulties, only two RCTs have looked at whether wearing masks prevents the spread of covid-19 🔗 /article-topic/covid-19/ outside of healthcare settings.

One, in Denmark, was too small to produce a statistically significant result. The other, in Bangladesh, found that in villages randomly chosen to be supplied with masks, 35 per cent fewer people aged more than 60 years old and 10 per cent fewer people overall got symptomatic infections, compared with villages that weren't supplied with masks.

As such, the much-criticised Cochrane review published in January 🔗 https://doi.org/10.1002/14651858.CD006207.pub6, which looked only at RCTs, said it couldn't draw "firm conclusions" about the efficacy of masks. Some people then wrongly claimed 🔗 https://www.factcheck.org/2023/03/scicheck-what-the-cochrane-review-says-about-masks-for-covid-19-and-what-it-doesnt/ that this review found that masks don't work.

Many highly effective policies, such as speed limits and the wearing of seatbelts, have never been assessed by RCTs, as pointed out by Shama Cash-Goldwasser 🔗 https://www.linkedin.com/in/shama-cash-goldwasser-449aa91a5/ at the Resolve to Save Lives 🔗 https://resolvetosavelives.org/about/ initiative in New York. When few RCTs have been done, it is appropriate to look at other kinds of evidence, she and her colleagues write in their review.

To start with, lab studies show that masks help block the relatively large droplets and aerosols that can carry viruses, with higher-quality N95 masks filtering out more than lower-quality masks 🔗 /article/2231535-can-an-n95-face-mask-protect-you-from-catching-the-new-coronavirus/.

Then there are so-called observational studies, which look back at events and try to work out what effect certain measures may have had. For instance, during an outbreak on a ship called the USS Theodore Roosevelt early in the pandemic, crew members who reported wearing masks were 30 per cent less likely to have been infected than those who reported not wearing them.

The question of whether people who wear masks are less likely to be infected isn't the same as that of whether authorities asking people to wear masks – known as a mask mandate – reduces infection rates more widely, including among those who don't actually wear masks themselves. In Germany, a study that compared regions that introduced mask mandates at different times found a 45 per cent reduction in

infections.

A similar US study found a 25 per cent reduction four weeks after a mask mandate was introduced. Varying levels of adherence mean the effectiveness of mask mandates will vary from place to place and over time, the team notes.

“Available evidence strongly suggests that masking in the community can reduce the spread of SARS-CoV-2,” the review concludes.

“I think they’ve got it right,” says Christopher Dye 🔗 https://www.research.ox.ac.uk/researchers/christopher-dye at the University of Oxford, whose team has done an even more comprehensive review 🔗 https://doi.org/10.1098/rsta.2023.0133 as part of a Royal Society report 🔗 /article/2388929-lockdowns-and-face-masks-really-did-help-to-control-covid-19/. “In our review, we found essentially the same results in healthcare settings as in communities,” he says.

As observational studies aren’t randomised, it is difficult to ensure there is no bias, says Dye. However, when many different observational studies all come to the same conclusion, we can have more confidence in the findings.

Cash-Goldwasser and her colleagues also note that no public health 🔗 /subject/health/ intervention is 100 per cent effective and the benefits of masks have to be weighed against any adverse effects. For instance, it has been suggested wearing masks might affect the development of young children.

Authorities need to be clear about the evidence so they can make the best decisions in the event of another pandemic 🔗 /article-topic/pandemic/, the review concludes. “Masking with the highest-quality masks that can be made widely available should play an important role in controlling whatever pandemic caused by a respiratory pathogen awaits us.”